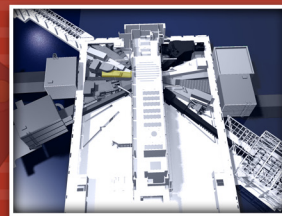


# INSTRUMENT

# 4B

BEAM LINE

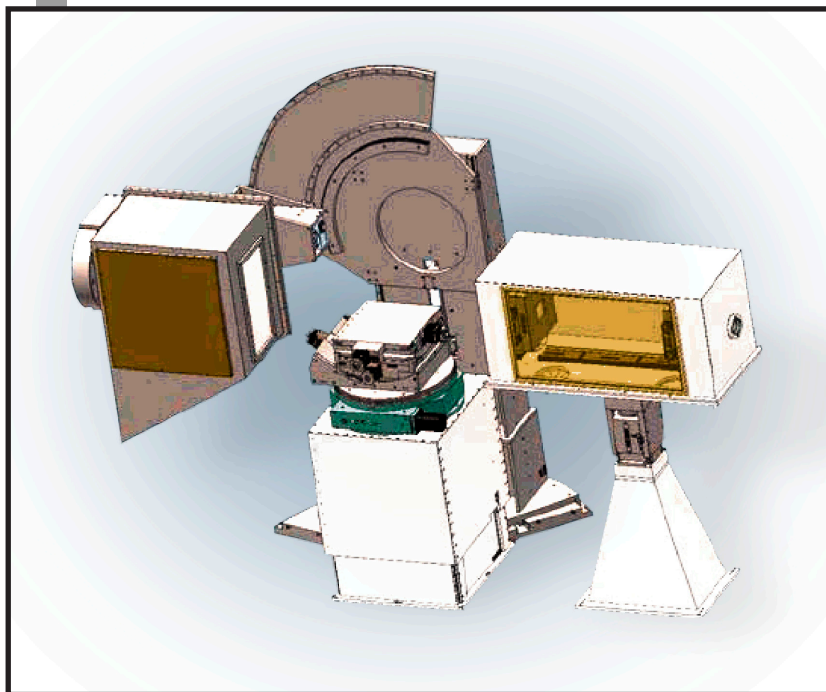
# Fact Sheet



## LIQUIDS REFLECTOMETER

The liquids reflectometer features a horizontal sample geometry and so can accommodate air/liquid surfaces, in addition to air/solid and liquid/solid interfaces. Active vibration isolation minimizes capillary-wave production by the external environment. The instrument will be useful for a wide range of science, including interfacial stud-

ies of biomaterials, polymers, and chemistry involving thin layers of surfactants or other materials on the surfaces of liquids. Data rates and Q-range covered at a single scattering angle setting will be sufficiently high to permit “real-time” kinetic studies on many systems. Time-resolved experiments include investigations of chemical kinetics, solid-state reactions, phase transitions, and chemical reactions in general.



### SPECIFICATIONS

Source-sample distance	13.6 m
Sample-detector distance	1.5 m
Detector size	20 × 20 cm <sup>2</sup>
Detector resolution	1.3 × 1.3 mm <sup>2</sup>
Moderator	coupled supercritical hydrogen
Bandwidth	$\Delta\lambda = 3.5 \text{ \AA}$
Wavelength range	$2.5 \text{ \AA} < \lambda < 17.5 \text{ \AA}$
Q range (air/liquid)	$0 \text{ \AA}^{-1} < Q < 0.5 \text{ \AA}^{-1}$
Q range (air/solid)	$0 \text{ \AA}^{-1} < Q < 1.5 \text{ \AA}^{-1}$
Minimum reflectivity	$5 \times 10^{-10}$

### RECENT SIGNIFICANT EVENTS

#### Instrument Construction

- Instrument construction is complete.
- The instrument safety review was conducted on May 31, 2006.
- Commissioning will start in July 2006.

#### FOR MORE INFORMATION, CONTACT LIQUIDS REFLECTOMETER STAFF

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[www.sns.gov/users/instrument\\_systems/instruments/elastic/liquid.shtml](http://www.sns.gov/users/instrument_systems/instruments/elastic/liquid.shtml)



June 2006